2C210

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PROPOSED CLOSURE STRATEGY FOR OU 7

GENERAL COMMENTS:

1. QA/QC of this document is strongly recommended.

   Tables in the appendices appear to be obtained directly from another source and are formatted different from the those in text. Table numbers in the appendices require corrections.

2. Location of OU 7 relative to the Rocky Flats site should be included.

3. Groundwater flow direction(s) should be clearly stated prior to discussion of groundwater.

4. Risk assessment methodology utilized is lacking. Information regarding how are risks calculated and how they are used to determine if remediation is required is missing.

5. Explanations on cover and slurry walls are lacking:

   a. What type of cover are we proposing? Is this a single layer clay cap or something else? If this action is a RCRA closure, then do we need a RCRA cap?

   b. Why do we need both a cover and the slurry wall. What are the risks associated for the following scenarios:

      1. without any action (baseline);
      2. with a cover only;
      3. with a slurry wall only; and
      4. with a cover and slurry wall.

   c. Costs associated with the cover and slurry wall.

   d. What other alternatives have we evaluated and their associated costs?

6. Depth and type of the slurry wall proposed are lacking. Please provide information on the implementability of the proposed slurry wall.

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1/10

PROPOSED CLOSURE STRATEGY FOR OU 7

GENERAL COMMENTS (CONTINUED):

7. Groundwater Risk Assessment

Please provide information on how will an office worker at OU 7 be exposed to groundwater. The only two exposure routes are ingestion of groundwater and direct contact via bathing or washing. It appears that both of these exposure routes to an office worker are mitigated via institutional control (i.e. groundwater water is not used). It appears that there is no groundwater risk to an office work due to institutional control.

The groundwater risk should be evaluated at the boundary of the site where DOE has no institutional control.

SPECIFIC COMMENTS:

8. Page 6

Why weren't subsurface soil sample taken?

Are those samples taken at the depth of 0 - 10 inches considered as subsurface soils? Are we assuming that soil at a depth greater than 10 inches is not effected?

9. UTL & UCL

On Page 7, 95% UCL was stated as the key parameter for COC determination.

On pages 12, 32, E-1, etc., and Tables 4-20, 4-21, SED-1, 4-18, etc., 99% UTL was used and Pages 35, B-1, etc, 95% UCL was used.

Please provide explanation on how the 95% UCL and the upper tolerance interval level (UTL) of 99% at the 99% upper confidence level (UCL) were used.

10. Page 27

If no investigation was conducted for the surface water upgradient of the landfill, then why do we need to install a new ditch for diverting surface water runoff?

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PROPOSED CLOSURE STRATEGY FOR OU 7

SPECIFIC COMMENTS (CONTINUED):

11. Chapter 1

References to Tables 1, 2 & 3 appear to be missing from the text.

Analytical values listed in Tables 1 and 2 appear to be identical. Is the assumption that seep and the surface water maximum concentrations are almost identical correct?

Verification(s) and explanation(s) of the identical seep and surface water maximum concentrations would be helpful.

12. Table 3

Since selenium is a chemical of concern, why is it that this critical information on the downgradient side is missing?

13. Tables 1, 2 & 3

Please provide explanation on why maximum values were used instead of sample means? Were maximum values used for COC determinations?

From information provided in Appendix B, it appears that sample means should be used.

14. Table 1

	Table 1 Max Value	Table 4-19 Range
1,2-Dichloroethane	14 ug/l	Missing
Benzene	2 ug/l	1 - 5 ug/l
Chloromethane	7 ug/l	4 - 10 ug/l
Trichlorethene	4 ug/l	1 - 5 ug/l
4-Methylphenol	4 ug/l	1 - 10 ug/l

QA/QC of all tables in the this report strongly recommended.

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PROPOSED CLOSURE STRATEGY FOR OU 7

SPECIFIC COMMENTS (CONTINUED):

15. Appendix A

	ARAR	PQL
Antimony	0.006 ug/l	0.30 ug/l
Silver	0.050 ug/l	0.07 ug/l

Please provide explanation on the proper approach to convince the regulatory agencies that we are in compliance for antimony and silver when our PQLs exceed the ARAR requirements.

16. Appendix A

Please provide substantiation for the PQLs listed for the volatile organics. The U.S. EPA's most recent recommended Contract Required Reporting Limits (CRDLs) for volatile organics are approximately 10 times higher than our PQLs.

17. Appendix B, Table SW-1

Surface water ARARs for surface water (such as 1,1-Dichloroethane, 1,1-Dichloroethene, 2-hexanone, etc.) appear to be missing from Appendix A.

Please review all tables in the appendices and incorporate the ARARs in Appendix A.

18. Appendix B, Table SW-2

Please modify the statement "Only analytes with PRGs are evaluated in a risk assessment. ..."

Explanation on why some of the PRGs are not developed for Rocky Flats is more appropriate.

DRAFT

4/10

PROPOSED CLOSURE STRATEGY FOR OU 7

SPECIFIC COMMENTS (CONTINUED):

19. Appendix F

Please provide explanation on why the maximum value was used for to determine if arsenic exceed the PRG value?

Usage of maximum value when there are insufficient samples is the proper method. But when there are 216 samples available, a statistical mean is more appropriate.

METHODOLOGY FOR USAGE OF MAXIMUM VALUES TO DETERMINE IF PRG VALUES HAVE BEEN EXCEEDED WHEN THERE ARE SUFFICIENT SAMPLES TO OBTAIN A STATISTICAL MEAN SHOULD BE RE-EVALUATED.

Same for radium-226.

20. Tables SS-1, SS-8 and SS-9

Please provide explanations on why the RPG for arsenic (10 mg/kg) is lower than the maximum background value (13 mg/kg).

Same for radium-226.

21. Appendix G, Tables GW-1, GW-2 and GW-4

These tables that these tables are for OU 7 total groundwater. Please provide explanation on why the the two sets of data are separated and not combined as a total OU 7 groundwater data.

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REVIEW COMMENT SHEET

Time Spent on Review: _____ hrs.

Return to:

_____ FAX | _____ Name | _____ Ext. | _____ Location

If questions on content, please call the SME:

Briand Wu Name | _____ Ext.

Please review the attached procedure: _____ Number | _____ Rev. | _____ Draft | Proposed Closure Strategy for OU7, Draft Report, April 13, 1995 Title

Comment Due Date: _____

☐ Internal Review ☐ Parallel Review ☐ Verification ☐ Validation ☐ Revalidation

General (G) comments require resolution but do not require resolution acceptance. Mandatory (M) comments require resolution and resolution acceptance. 1-A03-PPG-004 provides complete definitions of General and Mandatory comments.

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE
			General Comments: 1. QA/QC of this document is strongly recommended. Tables in the appendices appear to be obtained directly from another source and are formatted different from those in the text. Table numbers in the appendices require corrections. 2. Location of OU7 relative to the Rocky Flats site should be included. 3. Groundwater flow direction (s) should be clearly stated prior to discussion of groundwater. 4. Risk assessment methodology utilized is lacking. Information regarding how are risks calculated and how they are used to determine if remediation is required is missing. 5. Explanations on cover and slurry walls are lacking: a. What type of cover are we proposing? Is this a single layer clay cap or something else? If this action is a RCRA closure, then do we need a RCRA cap? b. Why do we need both a cover and the slurry wall. What are the risks associated for the following scenarios:		

POC/Reviewer: (Comments not signed by POC/Reviewer will be considered unofficial and not subject to resolution)

☐ No Comments

☐ This procedure revision has no impact or relevance to our discipline or organization and we waive need to concur.

Briand Wu Name | _____ Signature

X / /4728 Ext./Pager/Fax | DOE Bldg./Dept./AGM | _____ Date

Resolutions Accepted

_____ Initials | _____ Date

NOTE: These reviews are completed by qualified reviewers in accordance with 1-A03-PPG-004 in concert with 1-A01-PPG-001 and 1-A02-PPG-003.

REVIEW COMMENT SHEET (continued)

Review comments for document: Proposed Closure Strategy for Operable Unit Seven, Draft Report, April 13, 1995 (Number) _____ (Rev.) _____ (Draft)

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE
			1. Without any action (baseline); 2. With a cover only; 3. With a slurry wall only; and 4. With a cover and slurry wall. c. Costs associated with the cover and slurry wall. d. What other alternatives have we evaluated and their associated costs? 6. Depth and type of the slurry wall proposed are lacking. Please provide information on the implementablity of the proposed slurry wall. 7. Groundwater Risk Assessment: Please provide information on how will an office worker at OU7 be exposed to groundwater. The only two exposure routes are ingestion of groundwater and direct contact via bathing or washing. It appears that both of these exposure routes to an office worker are mitigated via institutional control (i.e., groundwater water is not used). It appears that there is no groundwater risk to an office work due to institutional control. The groundwater risk should be evaluated at the boundary of the site where DOE has no institutional control.		
	6		Why weren't subsurface soil samples taken? Are those samples taken at the depth of 0 - 10 inches considered as subsurface soils? Are we assuming that soil at a depth greater than 10 inches is not affected?		
	7		UTL & UCL. 95% risk UCL was stated as the key parameter for COC determination. On pages 12, 32, E-1, Etc., ant Tables 4-20, 4-21, SED-1, 4-18, etc., 99% UTL was used and Pages 35, B-1, etc., 95% UCL was used.		

POC/Reviewer: **(Comments not signed by the POC/Reviewer will be considered as unofficial comments)**

Briand Wu (Name) _____ (Signature) _____ (Date)

Resolutions Accepted

_____ (Initials) _____ (Date)

REVIEW COMMENT SHEET (continued)

Review comments for document: Proposed Closure Strategy for Operable Unit Seven, Draft Report, April 13, 1995 (Number) ____ (Rev.) ____ (Draft)

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE
			Please provide an explanation on how the 95% background UCl and the epper tolerance interval level (UTL) of 99% at the 99% upper confidence level (UCL) were used.		
	27		If no investigation was conducted for the surface water upgradient of the landfill, then why do we need to install a new ditch for diverting surface water runoff?		
	Chapter 1		References to Tables 1, 2, & 3 appear to be missing from the text. Analytical values listed in Tables 1 and 2 appear to be identical. Is the assumption that seep and the surface water *maximum concentrations are almost identical correct*? Verification (s) and explanation(s) of the identical seep and surface water maximum concentrations would be helpful.		
	Table 3		Since selenium is a chemical of concern, why is it that this critical information on the downgraident side is missing?		
	Table 1, 2 & 3		Please provide an explanation on why maximum values were used instead of sample means? Were maximum values used for COC determinations? From information provided in Appendix B, it appears that sample means should be used.		
	Table 1		Table 1 Max Value / Table 4-19 Range 1, 2-Dichloroethane: 14 ug/1 / Missing Benzene: 2 ug/1 / 1 - 5 ug/1 Chloromethane: 7 ug/1 / 4 - 10 ug/1 Trichlorethene: 4 ug/1 / 1 - 5 ug/1 4-Methylpheonol: 4 ug/1 / 1 - 10 ug/1 QA/QC of all tables in this report strongly recommended.		

POC/Reviewer: **(Comments not signed by the POC/Reviewer will be considered as unofficial comments)**

Briand Wu (Name) ____ (Signature) ____ (Date)

Resolutions Accepted

____ (Initials) ____ (Date)

RF-47947A (5/93)

REVIEW COMMENT SHEET (continued)

Review comments for document: Proposed Closure Strategy for Operable Unit Seven, Draft Report, April 13, 1995 (Number) ____ (Rev.) ____ (Draft)

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE
	Appendix A		ARAR / PQL Antimony 0.006 ug/1 / 0.30 ug/1 Silver 0.050 ug/1 / 0.07 ug/1 Please provide an explanation on the proper approach to convince the regulatory agencies that we are in compliance for antimony and silver when our PQLs exceed the ARAR requirements.		
	Appendix A		Please provide substantiation for the PQLs listed for the volatile organics. The U.S. EPAs most recent recommended Contract Required Reporting Limits (CRDLs) for volatile organics are approximately 10 times higher than our PQLs.		
	Appendix B, Table SW-1		Surface water ARARs for surface water (such as 1, 1-Dichloroethane, 1, 1-Dichloroethene, 2-Hexanone, etc.) appear to be missing from Appendix A. Please review all tables in the appendices and incorporate the ARARs in Appendix A.		
	Appendix B, Table SW-2		Please modify the statement, "Only analytes with PRGs are evaluated in a risk assessment. . ." Explanation on why some of the PRGs are not developed for Rocky Flats is more appropriate.		
	Appendix F		Please provide an explanation on why the maximum value was used to determine if arsenic exceeded the PRG value? Usage of maximum value when there are insufficient samples is the proper method. But when there are 216 samples available, a statistical mean is more appropriate. Methodology for usage of maximum values to determine if PRG values have been exceeded when there are sufficient samples to obtain a statistical mean should be re-evaluated. Same for radium-226.		

POC/Reviewer: **(Comments not signed by the POC/Reviewer will be considered as unofficial comments)**

Briand Wu (Name) ____ (Signature) ____ (Date)

Resolutions Accepted

____ (Initials) ____ (Date)

REVIEW COMMENT SHEET (continued)

Review comments for document: _____ (Number) _____ (Rev.) _____ (Draft)

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE
	Tables SS-1, SS-8, & SS-9		Please provide an explanation on why the PRG for arsenic (10 mg/kg) is lower than the maximum background value (13 mg/kg). Same for radium-226.		
	Appendix G, Tables GW-1, GW-2, & GW-4		These tables are for OU7 total groundwater. Please provide an explanation on why the two sets of data are separated and not combined as a total OU7 groundwater data.		

POC/Reviewer: **(Comments not signed by the POC/Reviewer will be considered as unofficial comments)**

Briand Wu _____ _____
Name Signature Date

Resolutions Accepted

_____ _____
Initials Date